

Texas Instruments Engineering Evaluation Units versus MIL-PRF-38535 QML Class V Processing

Texas Instruments Engineering Evaluation (/EM and -MPR) samples are intended for engineering evaluation only. While using the same die as fully qualified and processed space-grade products (QML Class V or TI -MLS), they are processed to a non-compliant flow (for example, no burn-in, and so forth) and are tested to a temperature rating of +25°C only. These units are not suitable for qualification, production, radiation testing or flight use. Parts are not specified for performance over the full military specified temperature range of –55°C to +125°C or for operating life.

Processing Step	MIL-PRF-38535 QML Class V	Engineering Evaluation Units
<ul style="list-style-type: none"> • <i>Qualified Production Facilities and Material Set</i> <ul style="list-style-type: none"> ○ <i>QML V Qualified Die and Wafer Fab</i> ○ <i>QML V Qualified Assembly Site</i> ○ <i>Qualified Hermetic Package With Class V Material Set (Die Attach, Bondwire, Lid Seal)</i> 	Yes	Yes
• <i>Wafer Lot Acceptance</i>	Yes	Optional
• <i>Pre-Seal Visual Inspection – Condition A</i>	100% at 100X and 40X	No
• <i>Pre-Seal Visual Lot Acceptance- Condition A</i>	45(0) at 100X and 40X	40X only
• <i>Temperature Cycle</i>	Yes	No
• <i>Centrifuge</i>	Yes	No
• <i>Particle Impact Noise Detection (PIND)</i>	Yes	No
• <i>X-Ray (Radiography)</i>	Yes	No
• <i>Pre Burn-in +25°C Electrical Test</i>	Yes	No
• <i>Burn-In +125°C for 240 Hours or equivalent</i>	Yes	No
• <i>+25°C Electrical Test</i>	Yes	Yes
• <i>PDA Calculations</i>	Yes	No
• <i>+25°C Group A Lot Acceptance</i>	116(0)	No
• <i>+125°C Electrical Test</i>	Yes	No
• <i>+125°C Group A Lot Acceptance</i>	116(0)	No
• <i>-55°C Electrical Test</i>	Yes	No
• <i>-55°C Group A Lot Acceptance</i>	116(0)	No
• <i>Hermeticity – Fine Leak</i>	Yes	Yes
• <i>Hermeticity – Gross Leak</i>	Yes	Yes
• <i>External Visual Inspection</i>	Yes	No
• <i>External Visual Lot Acceptance</i>	45(0)	45(0)
• <i>Quality Conformance Inspection</i>	Yes	No
• <i>Processing Conformance Report / QCI Summaries</i>	Yes	No

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